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WINE ATTRIBUTES HAVING THE GREATEST INFLUENCE ON CONSUMER CHOICE IN SPAIN

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Abstract— The commercialisation of wine in Spain is problematic due to two concrete circumstances: the decrease in wine consumption because of a consumer shift toward substitute drinks and the greater presence of national and foreign wine in the interior market, which involves an increase in business competitiveness. The increase in competitiveness of quality Spanish wine depends on producing enterprises' knowledge of wine consumer preferences so they can offer consumers what they demand. In order to respond to this matter and better adapt supply, 421 wine consumers were surveyed using the *Best-Worst Scaling* methodology. Various segmentations were also made by consumer income and age groups. The results indicate that the two main attributes which condition consumers in choosing wine are the region of origin and having tasted it previously. The region of origin attribute is valued in general by consumers over 34 years old who have a monthly family income above 1,500 €. The attribute of having tasted it before, which on many occasions is associated with the price attribute, is valued particularly by younger consumers and those with lower incomes.

Keywords— Consumer behaviour, Wine attributes, Food Marketing.

I. INTRODUCTION

The commercialisation of wine in Spain is problematic due to two concrete circumstances: the decrease in wine consumption because of a consumer shift toward substitute drinks and the greater presence of national and foreign wine in the interior market, which involves an increase in business competitiveness.

In addition, the high level of fragmentation in Spanish wine production does not allow the majority of companies to achieve their objective of serving the entire market. Instead they must centre on specific market segments, where they try to be differentiated from their competition to satisfy their clients in the most efficient way possible.

To develop specific strategies in different market segments, wine attributes must be determined (e.g. through surveys) that have the greatest influence on consumer

choice in each segment. The advantage of surveys is to allow the acquisition of more knowledge about real consumer preferences. However, evaluation through a panel of consumers, for example, determines the wine that consumers bought but not necessarily the wine that they had desired to buy (Goodman *et al.*, 2005).

The most common methods for determining consumer preferences are the Conjoint Analysis (Green and Rao, 1971) and the panel of consumers. In Conjoint Analysis surveyees report on the global preference for a product profile from a limited number of attributes and the researcher estimates the relative importance of each one of them. Panels of consumption give individual purchases in detail but do not allow a combination of attributes.

On the contrary, the Best-Worst (BW) method, contained within a subset of multinomial logit models (Marley and Louviere, 2005), has been demonstrated to be very precise in determining preferences. Its main advantages are: high differentiation in the degree of importance that consumers grant to attributes and prevention of problems of bias in evaluations (Casini *et al.*, 2009). It is especially indicated for comparisons between different socioeconomic scenes (Cohen, 2009; Goodman *et al.*, 2008). It is easy to use and understand, making it particularly indicated in the sphere of business management.

Genesis of the BW method, which uses maximum difference scaling, comes from a little investigated deficiency of Conjoint Analysis. Lynch (1985) warned that the Conjoint Analysis additive model does not permit separating the importance and the value of the scale. That is to say, Conjoint Analysis allows intra-attribute comparisons of levels but does not permit cross-attribute comparisons. This is because the scale of the attributes is unique in each attribute and not a method of global scaling.

Using the advantages of applying the BW method, the objective of this paper is to determine the wine attributes with the greatest influence on the process of consumer choice, and particularly, the differences among attributes depending on the consumer's monthly family income and age. The final aim is none other than to try to identify the most important wine attributes that the consumer uses in the process of choosing, so they can be used by wine-producing companies in marketing strategies.

II. MATERIALS AND METHODS

For this study, 421 wine consumers from each provincial capital of the region of Castilla-La Mancha (Spain) were personally surveyed in January, 2009. To design the sample, data from the National Statistics Institute (INE, 2008) on the population of Castilla-La Mancha was used from the year 2007. Random, stratified sampling with proportional fixation per city, gender and age was taken for wine consumers who were about to buy food for home consumption in supermarkets and hypermarkets. Age groups were: 18 to 24 years old, 25-34, 35-49, 50-64 and over 64. Maximum error did not surpass 5.0 per cent, for a 95.5 per cent confidence level ($k=2$), under the principle of maximum indetermination ($p=q=50$ per cent). Before field work, a preliminary questionnaire was given to 25 people who normally purchase groceries to confirm that the questions on the poll were well-designed and understandable.

For this paper the most representative attributes for choosing wine by consumers in the process of purchasing were selected according to the bibliography, interviews with experts, a previous questionnaire and similar papers published in other countries. The eleven attributes identified as the most influential were: price (1), having tasted the wine previously (2), region of origin (3), grape variety (4), aging (5), brand name (6), alcoholic content under 13% (7), design of the bottle and label (8), gastronomic combinations (9), recommendations by friends and relatives (10), and organic production (11).

The eleven attributes were presented in 12 different series of choices, asking consumers the most and least important attribute at the moment of choosing wine and making sure that each attribute appeared six times throughout all the series of options. The adopted design, which was proposed by Finn and Louviere (1992), has 12 series of choices and has also been applied by Goodman *et al.* (2005).

To determine which attributes are the most influential when choosing a wine, the BW method was applied (Finn and Louviere, 1992), which is based on choice by comparisons in pairs of attributes.

In the BW method, consumers are shown a series of cards as a subset of the attributes. For each subset of attributes, the consumer must identify “the best” attribute, understood as the most influential one at the time of choosing wine and “the worst” attribute, understood as the least influential one. Order bias was minimized by the use of four different survey versions where only the order of the best and worst attributes was changed on the 12 tables.

The SPSS 19.0 statistical program (SPSS, 2010) was used to determine the results. First, the number of times that each attribute had been marked as the best (B), as well as

the worst (W), was tabulated in all the tables of choice proposed to consumers. Thus, the BW scaling of the attribute was obtained as the difference between both additions. In addition, following Marley and Louviere (2005), the value of $\sqrt{B/W}$ was also calculated, since it gives a good approximation of the importance of the scaling (Lee *et al.*, 2008). Lastly, to increase ease of interpretation, the values of $\sqrt{B/W}$ were standardised depending on the most important attribute (Jaeger *et al.*, 2009).

Nevertheless, wine producing companies do not generally serve the whole market, but rather specialize in some consumer segments which they try to satisfy depending on consumer preferences. Heeding this criteria in order to improve the supply of wine, three direct segmentations were made depending on wine consumers' monthly family income and age. Income was divided into low: <1,500 €, medium: 1,500 to 3,000 € and high: > 3,000 €. Age groups were: ≤34 years old, 35-64 and ≥65.

Surveyees' socioeconomic characteristics are given in Table 1.

Table 1. Sample socioeconomic characteristics of the subjects participating in the consumer panel (%)

Variable	Levels	Population ^a	Sample
Gender	<i>Male</i>	49.6	49.8
	<i>Female</i>	50.4	50.2
Age (in years)	<i>18-24</i>	8.4	12.1
	<i>25-34</i>	20.6	19.7
	<i>35-49</i>	29.3	23.0
	<i>50-64</i>	18.6	22.8
	<i>> 64</i>	23.1	22.4
Education	<i>Grade School</i>	37.5	11.9
	<i>High School</i>	45.2	39.8
	<i>College</i>	17.3	48.3
Work role	<i>Businessman</i>	19.0	12.1
	<i>Employee</i>	38.5	50.1
	<i>Housewife</i>	15.6	12.6
	<i>Student</i>	5.7	8.1
	<i>Retired</i>	16.5	15.0
	<i>Other</i>	4.7	2.1
Monthly Family Income (€)	<i>< 900</i>	22.1	11.4
	<i>900 to < 1,500</i>	29.1	32.8
	<i>1,500 to < 2,100</i>	18.6	27.1
	<i>2,100 to < 3,000</i>	16.8	18.5
	<i>> 3,000</i>	13.4	10.2
Habitat	<i>Urban</i>	52.9	93.8
	<i>Rural</i>	47.1	6.2

^a Source: National Statistics Institute (INE, 2008)

III. RESULTS AND DISCUSSION

By monthly family income, the main attribute that conditioned low income consumers the most in their choice of wine was the price. For those with medium and high incomes, it was the region of origin. The attributes that seemed to condition these three consumer segments the least were: alcoholic content lower than 13%, brand name and design of the bottle and label (Table 2).

To specify the significant differences among these three consumer segments, the low income segment was more conditioned by the price and recommendations by friends and relatives than the medium and high income segments. In turn, the medium and high income segments were more conditioned by the region of origin and grape variety than the low income segment. Consumers from the high income

segment were the ones who valued organic production and the design of the wine bottle and label the most.

By age, while the attribute that conditioned the youngest consumers (≤ 34 year olds) the most in their choice of wine was having tasted it previously, in older consumers it was the region of origin. In all three consumer segments, the attributes that seemed to condition them the least were: alcoholic content below 13%, brand name and the design of the bottle and label (Table 3).

To make the significant differences that were established among the segments more concrete, the young consumers' decisions in choosing wine were basically conditioned by having tasted it previously, price and organic production, but not so much by grape variety, aging and alcoholic content under 13%.

Table 2. Importance of attributes affecting wine choice according to monthly family income.

Attribute	Low (< 1,500 € (44.2%) ¹				Medium (1,500 €-3,000 € (45.6%) ¹				High (>3,000 € (10.2%) ¹			
	BW		$\sqrt{\frac{B}{W}}$	Std. $\sqrt{\frac{B}{W}}$	BW		$\sqrt{\frac{B}{W}}$	Std. $\sqrt{\frac{B}{W}}$	BW		$\sqrt{\frac{B}{W}}$	Std. $\sqrt{\frac{B}{W}}$
	A	SD			A	SD			A	SD		
Price***	2.2	1.9	4.4	100	1.3	1.7	2.6	65	1.1	2.1	2.0	67
Having tasted the wine previously	2.3	2.0	4.2	96	2.2	2.4	3.3	82	1.8	2.4	2.7	91
Region of origin*	1.8	1.9	3.3	74	2.2	1.8	4.1	100	1.9	2.0	2.9	100
Recommendations by friends and relatives**	1.8	2.2	2.5	57	1.1	2.2	1.8	43	1.2	2.6	1.9	65
Gastronomic combinations	-0.5	2.1	0.8	17	-0.1	2.5	0.9	23	-0.1	2.9	0.9	32
Organic production***	-0.4	2.2	0.7	17	-0.3	1.9	0.8	20	1.2	2.6	2.2	74
Grape variety***	-0.6	2.2	0.7	16	0.3	2.4	1.2	29	0.1	2.2	1.1	36
Aging	-0.9	2.4	0.6	14	-0.4	2.6	0.8	20	-0.4	2.1	0.8	27
Design of the bottle and label**	-1.4	2.4	0.5	11	-1.7	2.4	0.4	10	-2.5	2.1	0.2	6
Brand name	-1.9	2.0	0.4	8	-2.0	1.9	0.3	7	-2.0	1.8	0.3	11
Alcoholic content under 13%	-2.4	2.3	0.3	7	-2.5	2.1	0.2	6	-2.3	1.7	0.1	3

¹ Size of the segment. ***, ** and * indicate the existence of significant differences for a maximum error level of 1%, 5% and 10%, respectively.

A: Average; SD: Standard deviation; Std.: Standardized.

Table 3. Importance of attributes affecting wine choice according to age.

Attribute	≤ 34 years (31.8%) ¹				35-64 years (45.8%) ¹				≥ 65 years (22.4%) ¹			
	BW		$\sqrt{\frac{B}{W}}$	Std. $\sqrt{\frac{B}{W}}$	BW		$\sqrt{\frac{B}{W}}$	Std. $\sqrt{\frac{B}{W}}$	BW		$\sqrt{\frac{B}{W}}$	Std. $\sqrt{\frac{B}{W}}$
	A	SD			A	SD			A	SD		
Having tasted the wine previously*	2.5	2.1	5.9	100	2.2	2.4	3.2	87	1.8	2.1	2.8	60
Price***	2.5	1.8	5.2	88	1.4	1.9	2.7	72	1.0	1.6	2.3	49
Region of origin	1.7	1.9	2.9	49	2.1	1.9	3.7	100	2.1	1.7	4.6	100
Recommendations by friends and relatives	1.5	2.4	2.1	35	1.3	2.3	2.0	55	1.4	2.2	2.0	44
Organic production*	0.0	2.1	1.0	17	-0.1	2.0	1.0	26	-0.6	2.4	0.7	15
Gastronomic combinations	-0.3	2.1	0.8	14	-0.2	2.4	0.9	24	-0.3	2.6	0.9	19
Grape variety*	-0.5	2.2	0.7	13	0.1	2.4	1.0	28	0.0	2.4	1.0	22
Aging**	-1.0	2.1	0.5	9	-0.6	2.6	0.7	20	-0.2	2.7	0.9	20
Design of the bottle and label	-1.5	2.2	0.4	8	-1.7	2.6	0.5	12	-1.9	2.2	0.4	8
Brand name	-1.9	2.0	0.3	6	-1.9	1.8	0.3	8	-2.1	2.0	0.3	7
Alcoholic content under 13% ***	-3.0	1.9	0.1	2	-2.7	1.9	0.2	4	-1.2	2.5	0.6	12

¹ Size of the segment. ***, ** and * indicate the existence of significant differences for a maximum error level of 1%, 5% and 10%, respectively.

A: Average; SD: Standard deviation; Std.: Standardized.

IV. CONCLUSIONS

In general, the attributes that seemed to condition wine consumers the most at the time of choosing a wine were: having tasted it previously, region of origin, price, and recommendations by friends and relatives. Attributes that conditioned them the least were: bottle and label design, brand name and a low alcoholic content, in that order.

According to segmentation by income, while the low income segment was conditioned the most by price and recommendations, the medium and high segments were conditioned by region of origin and grape variety. As income increased, organic production and the design of the bottle and label were more highly valued.

According to segmentation by age, the younger the consumers were, the greater the importance they gave to having tasted it previously, to price and to organic production. As age increased, region of origin became more important.

In this sense, from the viewpoint of the wine consumer in Spain, designations of origin are more important than brand name. Only when a designation of origin is prestigious does the brand of wine come into play. Said in another way, the brand name is not as important as the region of origin. This means that the strategy adopted by designations of origin that is least valued by the consumer is to compete through price, a similar strategy generally adopted by foreign wine producing companies in Spain.

Finally, there could be multiple business strategies depending on the segment under consideration. So, when it is detected that consumers chose wine either because they have tasted it previously or because of the recommendations of friends and relatives, possible opinion-generating strategies in consumers would include: wine tasting in various types of consumer associations, commercial centres, etc. as also turn-out at fairs, contests and events (lectures, courses, gastronomic workshops, etc.) where the company and its wine are introduced.

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